



CAESAR Offshore



P O S C

Petrotechnical Open Software Corporation

POSC/CAESAR Project
Oil & Gas Facilities Data Model
Snapshot C/D
Normal Involvement Report

13-Jan-97

Activity Class	Involvement Class	Class Object
AUTHORISE	AUTHORISEABLE	ACTIVITY CLASS
AUTHORISE	AUTHORISEABLE	CHARACTERISTIC CLASS
AUTHORISE	AUTHORISEABLE	FACILITY CLASS
AUTHORISE	AUTHORISEABLE	INFORMATION CONTENT CLASS
AUTHORISE	AUTHORISEABLE	MATERIAL CLASS
AUTHORISE	AUTHORISEABLE	ORGANISATION CLASS
AUTHORISE	AUTHORISEABLE	PERSON CLASS
AUTHORISE	AUTHORITY	ORGANISATION CLASS
AUTHORISE	AUTHORITY	PERSON CLASS
AUTHORISE	PURPOSE	ACTIVITY CLASS
CONTROL AND APPROVE ACTIVITIES	BASIS	CHANGE REQUEST
CONTROL AND APPROVE ACTIVITIES	BASIS	OWNER REQUIREMENTS
CONTROL AND APPROVE ACTIVITIES	BASIS	SITE INFORMATION
CONTROL AND APPROVE ACTIVITIES	BASIS	STATUS
CONTROL AND APPROVE ACTIVITIES	CONTROLLER	BUSINESS DIRECTIVES
CONTROL AND APPROVE ACTIVITIES	CONTROLLER	CODES
CONTROL AND APPROVE ACTIVITIES	CONTROLLER	CORPORATE STANDARDS
CONTROL AND APPROVE ACTIVITIES	CONTROLLER	REGULATORY REQUIREMENTS
CONTROL AND APPROVE ACTIVITIES	PRODUCT	AUTHORIZATION PLAN
CONTROL AND APPROVE ACTIVITIES	PRODUCT	PROJECT AUTHORIZATIONS/CONTROLS

Activity Class	Involvement Class	Class Object
CONTROL AND APPROVE ACTIVITIES	PRODUCT	SCHEDULES
DECOMMISSION & DEMOLISH OF PLANT	CONTROLLER	PLANT OPERATION/MAINTENANCE DOCUMENTATION
DECOMMISSION & DEMOLISH OF PLANT	PRODUCT	RESTORED SITE
DEFINE COMMISSIONING PHILOSOPHY	BASIS	PROCESS CONTROL LOGIC
DEFINE COMMISSIONING PHILOSOPHY	BASIS	PROCESS FLOW DIAGRAM (PFD)
DEFINE COMMISSIONING PHILOSOPHY	BASIS	PROCESS STREAM DATA
DEFINE COMMISSIONING PHILOSOPHY	BASIS	SITE INFORMATION
DEFINE COMMISSIONING PHILOSOPHY	CONTROLLER	COST AND TIME ESTIMATES
DEFINE COMMISSIONING PHILOSOPHY	CONTROLLER	EQUIPMENT SPECIFICATION
DEFINE COMMISSIONING PHILOSOPHY	CONTROLLER	WEIGHT AND VOLUME ESTIMATES
DEFINE COMMISSIONING PHILOSOPHY	PRODUCT	COMMISSIONING PHILOSOPHY
DEFINE COMMISSIONING PHILOSOPHY	PRODUCT	RULES AND SEQUENCES
DEFINE CONTAINMENT PHILOSOPHY	BASIS	REGULATORY REQUIREMENTS
DEFINE CONTAINMENT PHILOSOPHY	CONTROLLER	DESIGN SAFETY PHILOSOPHY
DEFINE CONTAINMENT PHILOSOPHY	PRODUCT	CONTAINMENT PHILOSOPHY
DEFINE CONTROL PHILOSOPHY	BASIS	OWNER REQUIREMENTS
DEFINE CONTROL PHILOSOPHY	BASIS	PROCESS FLOW DIAGRAM (PFD)
DEFINE CONTROL PHILOSOPHY	CONTROLLER	CODES

Activity Class	Involvement Class	Class Object
DEFINE CONTROL PHILOSOPHY	CONTROLLER	DESIGN BASIS
DEFINE CONTROL PHILOSOPHY	CONTROLLER	HEAT/MASS BALANCE
DEFINE CONTROL PHILOSOPHY	CONTROLLER	UNIT OPERATIONS
DEFINE CONTROL PHILOSOPHY	PRODUCT	PROCESS CONTROL LOGIC
DEFINE END REQUIREMENTS	BASIS	OWNER REQUIREMENTS
DEFINE END REQUIREMENTS	BASIS	SITE INFORMATION
DEFINE END REQUIREMENTS	CONTROLLER	CODES
DEFINE END REQUIREMENTS	CONTROLLER	DESIGN BASIS
DEFINE END REQUIREMENTS	PRODUCT	END REQUIREMENTS
DEFINE ENGINEERING DESIGN STRATEGY	BASIS	TIME/COST ESTIMATES
DEFINE ENGINEERING DESIGN STRATEGY	CONTROLLER	AVAILABILITY REQUIREMENTS
DEFINE ENGINEERING DESIGN STRATEGY	CONTROLLER	CODES
DEFINE ENGINEERING DESIGN STRATEGY	CONTROLLER	CORPORATE STANDARDS
DEFINE ENGINEERING DESIGN STRATEGY	CONTROLLER	DESIGN BASIS
DEFINE ENGINEERING DESIGN STRATEGY	CONTROLLER	ENGINEERING PHILOSOPHY
DEFINE ENGINEERING DESIGN STRATEGY	CONTROLLER	STANDARD
DEFINE ENGINEERING DESIGN STRATEGY	PRODUCT	TECHNICAL RISK ASSESSMENT
DEFINE ENGINEERING DESIGN STRATEGY	PRODUCT	TIME/COST ESTIMATES
DEFINE OVERALL REQUIREMENT	BASIS	OWNER REQUIREMENTS
DEFINE OVERALL REQUIREMENT	BASIS	SITE INFORMATION
DEFINE OVERALL REQUIREMENT	CONTROLLER	DESIGN BASIS
DEFINE PROCEDURES, STANDARDS AND GUIDELIN	BASIS	CHANGE REQUEST
DEFINE PROCEDURES, STANDARDS	BASIS	OWNER REQUIREMENTS

Activity Class	Involvement Class	Class Object
AND GUIDELIN		
DEFINE PROCEDURES, STANDARDS	CONTROLLER	AUTHORIZATION PLAN
AND GUIDELIN		
DEFINE PROCEDURES, STANDARDS	CONTROLLER	REGULATORY REQUIREMENTS
AND GUIDELIN		
DEFINE PROCEDURES, STANDARDS	PRODUCT	PROJECT SPECIFIC
AND GUIDELIN		PROCEDURES/STANDARDS/GUIDELINES
DEFINE SAFETY PHILOSOPHIES	BASIS	CONCEPTUAL SAFETY ENGINEERING
		DESIGN DESIGN STRA
DEFINE SAFETY PHILOSOPHIES	CONTROLLER	ENGINEERING DESIGN STRATEGY
DEFINE SAFETY PHILOSOPHIES	PRODUCT	DESIGN SAFETY PHILOSOPHY
DEFINE UNIT OPERATIONS	BASIS	OWNER REQUIREMENTS
DEFINE UNIT OPERATIONS	BASIS	PROCESS CONTROL LOGIC
DEFINE UNIT OPERATIONS	BASIS	SITE INFORMATION
DEFINE UNIT OPERATIONS	BASIS	STREAM DATA
DEFINE UNIT OPERATIONS	CONTROLLER	CODES
DEFINE UNIT OPERATIONS	CONTROLLER	DESIGN BASIS
DEFINE UNIT OPERATIONS	PRODUCT	TIME/COST ESTIMATES
DEFINE UNIT OPERATIONS	PRODUCT	UNIT OPERATIONS
DESCRIBE AN ITEM	DESCRIBED	ACTIVITY CLASS
DESCRIBE AN ITEM	DESCRIBED	CHARACTERISTIC CLASS
DESCRIBE AN ITEM	DESCRIBED	FACILITY CLASS
DESCRIBE AN ITEM	DESCRIBED	INFORMATION CONTENT CLASS
DESCRIBE AN ITEM	DESCRIBED	MATERIAL CLASS
DESCRIBE AN ITEM	DESCRIBED	ORGANISATION CLASS
DESCRIBE AN ITEM	DESCRIBED	PERSON CLASS
DESCRIBE AN ITEM	DESCRIPTOR	INFORMATION CONTENT CLASS
DESCRIBE AN ITEM	PERFORMER	FACILITY CLASS
DESIGN A PROCESS	BASIS	SITE INFORMATION
DESIGN A PROCESS	CONTROLLER	END REQUIREMENTS
DESIGN A PROCESS	CONTROLLER	SAFETY HAZOPS ANALYSIS
DESIGN A PROCESS	CONTROLLER	START CONDITIONS
DESIGN A PROCESS	PRODUCT	PROCESS FLOW DIAGRAM (PFD)

Activity Class

DESIGN PLANT

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DETERMINE ENGINEERING
APPROACHDETERMINE ENGINEERING
APPROACH**Involvement Class**

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Class ObjectENGINEERING DESIGN, CONSTRUCTION,
AND OPERATION

OWNER REQUIREMENTS

SITE INFORMATION

TIME/COST ESTIMATES

CORPORATE STANDARDS

DESIGN BASIS

PROJECT AUTHORIZATIONS/CONTROLS

PROJECT FINANCIAL PLAN

PROJECT SPECIFIC

PROCEDURES/STANDARDS/GUIDELINES

REGULATORY REQUIREMENTS

SCHEDULES

ENVIRONMENTAL IMPACT ASSESSMENT

EQUIPMENT LIST

LINE SCHEDULE/LIST

OPERATION DATA AND DIRECTIVES

P AND I DIAGRAM

PROCESS CONTROL LOGIC

PROCESS FLOW DIAGRAM (PFD)

PROJECT SPECIFIC

PROCEDURES/STANDARDS/GUIDELINES

REGULATORY AUTHORIZATIONS

SAFETY HAZOPS ANALYSIS

SCHEMATIC DIAGRAMS

STATUS

STREAM DATA

SYSTEM LAYOUT/DESIGN

TIME/COST ESTIMATES

OWNER REQUIREMENTS

SITE INFORMATION

Activity Class	Involvement Class	Class Object
DETERMINE ENGINEERING APPROACH	CONTROLLER	CODES
DETERMINE ENGINEERING APPROACH	CONTROLLER	CORPORATE STANDARDS
DETERMINE ENGINEERING APPROACH	CONTROLLER	DESIGN BASIS
DETERMINE ENGINEERING APPROACH	PRODUCT	ENGINEERING DESIGN STRATEGY
DETERMINE STATUS OF EXISTING PLANT	BASIS	SITE INFORMATION
DETERMINE STATUS OF EXISTING PLANT	CONTROLLER	CODES
DETERMINE STATUS OF EXISTING PLANT	CONTROLLER	CORPORATE STANDARDS
DETERMINE STATUS OF EXISTING PLANT	CONTROLLER	DESIGN BASIS
DETERMINE STATUS OF EXISTING PLANT	CONTROLLER	ENGINEERING PHILOSOPHY
DETERMINE STATUS OF EXISTING PLANT	CONTROLLER	STANDARD
DETERMINE STATUS OF EXISTING PLANT	PRODUCT	AVAILABILITY REQUIREMENTS
ESTABLISH PLANT DESIGN BASIS	BASIS	OWNER REQUIREMENTS
ESTABLISH PLANT DESIGN BASIS	BASIS	RESOURCES
ESTABLISH PLANT DESIGN BASIS	BASIS	SITE INFORMATION
ESTABLISH PLANT DESIGN BASIS	CONTROLLER	PROJECT SPECIFIC PROCEDURES/STANDARDS/GUIDELINES
ESTABLISH PLANT DESIGN BASIS	CONTROLLER	REGULATORY AGREEMENTS
ESTABLISH PLANT DESIGN BASIS	CONTROLLER	REGULATORY REQUIREMENTS
ESTABLISH PLANT DESIGN BASIS	PRODUCT	CHANGE REQUEST
ESTABLISH PLANT DESIGN BASIS	PRODUCT	CODES
ESTABLISH PLANT DESIGN BASIS	PRODUCT	DESIGN BASIS
IDENTIFY MATERIALS OF	BASIS	PROCESS CONTROL LOGIC

Activity Class	Involvement Class	Class Object
CONSTRUCTION ACCORD	BASIS	PROCESS FLOW DIAGRAM (PFD)
IDENTIFY MATERIALS OF CONSTRUCTION ACCORD	BASIS	PROCESS STREAM DATA
IDENTIFY MATERIALS OF CONSTRUCTION ACCORD	BASIS	SITE INFORMATION
IDENTIFY MATERIALS OF CONSTRUCTION ACCORD	PRODUCT	EQUIPMENT LIST
IDENTIFY MATERIALS OF CONSTRUCTION FOR MA	BASIS	PROCESS CONTROL LOGIC
IDENTIFY MATERIALS OF CONSTRUCTION FOR MA	BASIS	SITE INFORMATION
IDENTIFY MATERIALS OF CONSTRUCTION FOR MA	BASIS	STREAM DATA
IDENTIFY MATERIALS OF CONSTRUCTION FOR MA	PRODUCT	EQUIPMENT LIST
IDENTIFY MATERIALS OF CONSTRUCTION FOR PR	BASIS	PROCESS CONTROL LOGIC
IDENTIFY MATERIALS OF CONSTRUCTION FOR PR	BASIS	PROCESS FLOW DIAGRAM (PFD)
IDENTIFY MATERIALS OF CONSTRUCTION FOR PR	BASIS	PROCESS STREAM DATA
IDENTIFY MATERIALS OF CONSTRUCTION FOR PR	BASIS	SITE INFORMATION
IDENTIFY MATERIALS OF CONSTRUCTION FOR PR	PRODUCT	EQUIPMENT LIST
IDENTIFY REGULATORY REQUIREMENTS	BASIS	DESIGN SAFETY PHILOSOPHY
IDENTIFY REGULATORY REQUIREMENTS	PRODUCT	REGULATORY REQUIREMENTS
IDENTIFY SAFETY/REGULATORY REQUIREMENTS	BASIS	OWNER REQUIREMENTS

Activity Class	Involvement Class	Class Object
IDENTIFY SAFETY/REGULATORY REQUIREMENTS	BASIS	SITE INFORMATION
IDENTIFY SAFETY/REGULATORY REQUIREMENTS	CONTROLLER	CODES
IDENTIFY SAFETY/REGULATORY REQUIREMENTS	CONTROLLER	DESIGN BASIS
IDENTIFY SAFETY/REGULATORY REQUIREMENTS	CONTROLLER	END REQUIREMENTS
IDENTIFY SAFETY/REGULATORY REQUIREMENTS	CONTROLLER	START CONDITIONS
IDENTIFY SAFETY/REGULATORY REQUIREMENTS	PRODUCT	SAFETY HAZOPS ANALYSIS
IDENTIFY START CONDITIONS	BASIS	OWNER REQUIREMENTS
IDENTIFY START CONDITIONS	BASIS	SITE INFORMATION
IDENTIFY START CONDITIONS	CONTROLLER	CODES
IDENTIFY START CONDITIONS	CONTROLLER	DESIGN BASIS
IDENTIFY START CONDITIONS	CONTROLLER	END REQUIREMENTS
IDENTIFY START CONDITIONS	PRODUCT	START CONDITIONS
MANAGE PLANT	CONTROLLER	AS-BUILT DOCUMENTS
MANAGE PLANT	CONTROLLER	OPERATING PROCEDURES
MANAGE PROJECT	BASIS	OWNER REQUIREMENTS
MANAGE PROJECT	BASIS	REGULATORY REQUIREMENTS
MANAGE PROJECT	BASIS	SITE INFORMATION
MANAGE PROJECT	BASIS	STATUS
MANAGE PROJECT	BASIS	TIME/COST ESTIMATES
MANAGE PROJECT	CONTROLLER	BUSINESS DIRECTIVES
MANAGE PROJECT	CONTROLLER	CORPORATE STANDARDS
MANAGE PROJECT	CONTROLLER	LEGAL REGULATORY AND SOCIAL CONSTRAINTS
MANAGE PROJECT	CONTROLLER	REGULATORY REQUIREMENTS
MANAGE PROJECT	PRODUCT	DESIGN BASIS
MANAGE PROJECT	PRODUCT	PROJECT AUTHORIZATIONS/CONTROLS
MANAGE PROJECT	PRODUCT	PROJECT FINANCIAL PLAN

Activity Class	Involvement Class	Class Object
MANAGE PROJECT	PRODUCT	PROJECT SPECIFIC PROCEDURES/STANDARDS/GUIDELINES
MANAGE PROJECT	PRODUCT	REGULATORY AGREEMENTS
MANAGE PROJECT	PRODUCT	SAFETY COMPLIANCE REPORT
OBTAIN AGREEMENT WITH REGULATORY BODIES	BASIS	SCHEDULES OWNER REQUIREMENTS
OBTAIN AGREEMENT WITH REGULATORY BODIES	BASIS	REGULATORY AGREEMENTS
OBTAIN AGREEMENT WITH REGULATORY BODIES	CONTROLLER	REGULATORY REQUIREMENTS
OBTAIN AGREEMENT WITH REGULATORY BODIES	CONTROLLER	SCHEDULES
OBTAIN AGREEMENT WITH REGULATORY BODIES	PRODUCT	CHANGE REQUEST
OBTAIN AGREEMENT WITH REGULATORY BODIES	PRODUCT	REGULATORY AGREEMENTS
OBTAIN AGREEMENT WITH REGULATORY BODIES	PRODUCT	SAFETY COMPLIANCE REPORT
OBTAIN CODES AND STANDARDS	BASIS	OWNER REQUIREMENTS
OBTAIN CODES AND STANDARDS	CONTROLLER	CODES
OBTAIN CODES AND STANDARDS	CONTROLLER	CORPORATE STANDARDS
OBTAIN CODES AND STANDARDS	CONTROLLER	DESIGN BASIS
OBTAIN CODES AND STANDARDS	PRODUCT	CODES
OBTAIN CODES AND STANDARDS	PRODUCT	STANDARD
OPERATE AND MAINTAIN PLANT	BASIS	COMMISSIONED PLANT
OPERATE AND MAINTAIN PLANT	CONTROLLER	AS-BUILT DOCUMENTS
OPERATE AND MAINTAIN PLANT	CONTROLLER	OPERATING PROCEDURES
OPERATE AND MAINTAIN PLANT	PRODUCT	ENGINEERING DESIGN, CONSTRUCTION, AND OPERATION
OPERATE AND MAINTAIN PLANT	PRODUCT	PLANT OPERATION/MAINTENANCE DOCUMENTATION
OPERATE AND MAINTAIN PLANT	PRODUCT	PLANT SAFETY MANAGEMENT REPORT

Activity Class	Involvement Class	Class Object
OPERATE PLANT	BASIS	CHANGE REQUEST
OPERATE PLANT	CONTROLLER	AS-BUILT DOCUMENTS
OPERATE PLANT	CONTROLLER	OPERATING PROCEDURES
PLAN/ANALYSE PROJECT FINANCES	BASIS	CHANGE REQUEST
PLAN/ANALYSE PROJECT FINANCES	BASIS	OWNER REQUIREMENTS
PLAN/ANALYSE PROJECT FINANCES	BASIS	RESOURCES
PLAN/ANALYSE PROJECT FINANCES	BASIS	TIME/COST ESTIMATES
PLAN/ANALYSE PROJECT FINANCES	CONTROLLER	CAPITAL APPROPRIATION
PLAN/ANALYSE PROJECT FINANCES	CONTROLLER	REGULATORY REQUIREMENTS
PLAN/ANALYSE PROJECT FINANCES	CONTROLLER	SCHEDULES
PLAN/ANALYSE PROJECT FINANCES	PRODUCT	CHANGE REQUEST
PLAN/ANALYSE PROJECT FINANCES	PRODUCT	PROJECT FINANCIAL PLAN
PROCURE & CONTROL EQUIPMENT, MATERIALS &	PROVIDER	EQUIPMENT TYPE
PROCURE & CONTROL EQUIPMENT, MATERIALS &	SERVICE	FACILITY CLASS
PROCURE COMPONENTS & CONSTRUCT PLANT & CO	BASIS	EQUIPMENT LIST
PROCURE COMPONENTS & CONSTRUCT PLANT & CO	BASIS	P AND I DIAGRAM
PROCURE COMPONENTS & CONSTRUCT PLANT & CO	BASIS	PROCESS FLOW DIAGRAM (PFD)
PROCURE COMPONENTS & CONSTRUCT PLANT & CO	BASIS	SCHEMATIC DIAGRAMS
PROCURE COMPONENTS & CONSTRUCT PLANT & CO	BASIS	SITE INFORMATION
PROCURE COMPONENTS & CONSTRUCT PLANT & CO	BASIS	SYSTEM LAYOUT/DESIGN
PROCURE COMPONENTS & CONSTRUCT PLANT & CO	BASIS	VENDOR SUPPLIERS LIST
PROCURE COMPONENTS & CONSTRUCT PLANT & CO	CONTROLLER	PROJECT AUTHORIZATIONS/CONTROLS
PROCURE COMPONENTS &	CONTROLLER	PROJECT FINANCIAL PLAN

Activity Class	Involvement Class	Class Object
CONSTRUCT PLANT & CO PROCURE COMPONENTS & CONSTRUCT PLANT & CO PROCURE COMPONENTS & CONSTRUCT PLANT & CO PROCURE COMPONENTS & CONSTRUCT PLANT & CO PROCURE COMPONENTS & CONSTRUCT PLANT & CO PROCURE COMPONENTS & CONSTRUCT PLANT & CO PROCURE COMPONENTS & CONSTRUCT PLANT & CO PROCURE COMPONENTS & CONSTRUCT PLANT & CO PROCURE COMPONENTS & CONSTRUCT PLANT & CO PRODUCE COMPOSITION OF PROCESS STREAMS PRODUCE COMPOSITION OF PROCESS STREAMS PRODUCE COMPOSITION OF PROCESS STREAMS PRODUCE COMPOSITION OF PROCESS STREAMS PRODUCE COMPOSITION OF PROCESS STREAMS PRODUCE COMPOSITION OF PROCESS STREAMS	CONTROLLER CONTROLLER PRODUCT PRODUCT PRODUCT PRODUCT PRODUCT PRODUCT BASIS BASIS CONTROLLER CONTROLLER CONTROLLER CONTROLLER PRODUCT	PROJECT SPECIFIC PROCEDURES/STANDARDS/GUIDELINES SCHEDULES AS-BUILT DOCUMENTS COMMISSIONED PLANT DELIVERY DATES STATUS TIME/COST ESTIMATES VENDOR DATA VENDOR INSPECTION RESULTS OWNER REQUIREMENTS PROCESS CONTROL LOGIC CODES DESIGN BASIS HEAT/MASS BALANCE UNIT OPERATIONS STREAM DATA

Activity Class	Involvement Class	Class Object
PRODUCE COMPOSITION OF PROCESS STREAMS	PRODUCT	TIME/COST ESTIMATES
PRODUCE CONCEPTUAL ENGINEERING DESIGN	BASIS	OWNER REQUIREMENTS
PRODUCE CONCEPTUAL ENGINEERING DESIGN	BASIS	PROCESS CONTROL LOGIC
PRODUCE CONCEPTUAL ENGINEERING DESIGN	BASIS	PROCESS FLOW DIAGRAM (PFD)
PRODUCE CONCEPTUAL ENGINEERING DESIGN	BASIS	SITE INFORMATION
PRODUCE CONCEPTUAL ENGINEERING DESIGN	CONTROLLER	DESIGN BASIS
PRODUCE CONCEPTUAL ENGINEERING DESIGN	CONTROLLER	EQUIPMENT PROCESS REQUIREMENTS
PRODUCE CONCEPTUAL ENGINEERING DESIGN	CONTROLLER	TIME/COST ESTIMATES
PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	CHANGE REQUEST
PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	EQUIPMENT LAYOUTS
PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	EQUIPMENT LIST
PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	EQUIPMENT SPECIFICATION
PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	P AND I DIAGRAM
PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	PROCESS CONTROL LOGIC
PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	PROJECT SPECIFIC PROCEDURES/STANDARDS/GUIDELINES
PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	SCHEMATIC DIAGRAMS
PRODUCE CONCEPTUAL	PRODUCT	SYSTEM LAYOUT/DESIGN

Activity Class	Involvement Class	Class Object
ENGINEERING DESIGN PRODUCE CONCEPTUAL ENGINEERING DESIGN	PRODUCT	TIME/COST ESTIMATES
PRODUCE CONCEPTUAL PROCESS DESIGN	BASIS	CHANGE REQUEST
PRODUCE CONCEPTUAL PROCESS DESIGN	BASIS	CHARACTERISTIC CLASS
PRODUCE CONCEPTUAL PROCESS DESIGN	BASIS	OWNER REQUIREMENTS
PRODUCE CONCEPTUAL PROCESS DESIGN	BASIS	SITE INFORMATION
PRODUCE CONCEPTUAL PROCESS DESIGN	CONTROLLER	CODES
PRODUCE CONCEPTUAL PROCESS DESIGN	CONTROLLER	DESIGN BASIS
PRODUCE CONCEPTUAL PROCESS DESIGN	PRODUCT	EQUIPMENT PROCESS REQUIREMENTS
PRODUCE CONCEPTUAL PROCESS DESIGN	PRODUCT	PROCESS CONTROL LOGIC
PRODUCE CONCEPTUAL PROCESS DESIGN	PRODUCT	PROCESS FLOW DIAGRAM (PFD)
PRODUCE CONCEPTUAL PROCESS DESIGN	PRODUCT	SAFETY HAZOPS ANALYSIS
PRODUCE CONCEPTUAL PROCESS DESIGN	PRODUCT	TIME/COST ESTIMATES
PRODUCE CONCEPTUAL SAFETY ENGINEERING DES	BASIS	SITE INFORMATION
PRODUCE CONCEPTUAL SAFETY ENGINEERING DES	CONTROLLER	ENGINEERING DESIGN STRATEGY
PRODUCE CONTROL SYSTEM ARCHITECTURE	BASIS	PROCESS CONTROL LOGIC
PRODUCE CONTROL SYSTEM ARCHITECTURE	BASIS	PROCESS FLOW DIAGRAM (PFD)

Activity Class	Involvement Class	Class Object
PRODUCE CONTROL SYSTEM ARCHITECTURE	BASIS	PROCESS STREAM DATA
PRODUCE CONTROL SYSTEM ARCHITECTURE	BASIS	SYSTEM SPECIFICATIONS
PRODUCE CONTROL SYSTEM ARCHITECTURE	CONTROLLER	EQUIPMENT DESIGN PHILOSOPHY
PRODUCE CONTROL SYSTEM ARCHITECTURE	CONTROLLER	EQUIPMENT LIST
PRODUCE CONTROL SYSTEM ARCHITECTURE	PRODUCT	SYSTEM LAYOUT/DESIGN
PRODUCE COST AND TIME ESTIMATES	BASIS	SYSTEM LAYOUT/DESIGN
PRODUCE COST AND TIME ESTIMATES	BASIS	SYSTEM SPECIFICATIONS
PRODUCE COST AND TIME ESTIMATES	BASIS	WEIGHT AND VOLUME ESTIMATES
PRODUCE COST AND TIME ESTIMATES	CONTROLLER	EQUIPMENT SPECIFICATION
PRODUCE COST AND TIME ESTIMATES	PRODUCT	COST AND TIME ESTIMATES
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	EQUIPMENT LAYOUTS
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	EQUIPMENT LIST
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	EQUIPMENT PROCESS REQUIREMENTS
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	EQUIPMENT SPECIFICATION
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	OWNER REQUIREMENTS
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	P AND I DIAGRAM
PRODUCE DETAILED ENGINEERING	BASIS	PROCESS CONTROL LOGIC

Activity Class	Involvement Class	Class Object
DESIGN		
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	PROCESS FLOW DIAGRAM (PFD)
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	PROJECT SPECIFIC PROCEDURES/STANDARDS/GUIDELINES
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	SCHEMATIC DIAGRAMS
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	SITE INFORMATION
PRODUCE DETAILED ENGINEERING DESIGN	BASIS	SYSTEM LAYOUT/DESIGN
PRODUCE DETAILED ENGINEERING DESIGN	CONTROLLER	SAFETY HAZOPS ANALYSIS
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	CHANGE REQUEST
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	EQUIPMENT LIST
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	EQUIPMENT PROCESS REQUIREMENTS
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	EQUIPMENT SPECIFICATION
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	P AND I DIAGRAM
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	PROJECT SPECIFIC PROCEDURES/STANDARDS/GUIDELINES
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	REGULATORY AUTHORIZATIONS
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	SAFETY COMPLIANCE REPORT
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	SCHEMATIC DIAGRAMS
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	SYSTEM LAYOUT/DESIGN

Activity Class	Involvement Class	Class Object
PRODUCE DETAILED ENGINEERING DESIGN	PRODUCT	TIME/COST ESTIMATES
PRODUCE DETAILED PROCESS DESIGN	BASIS	CHANGE REQUEST
PRODUCE DETAILED PROCESS DESIGN	BASIS	EQUIPMENT LAYOUTS
PRODUCE DETAILED PROCESS DESIGN	BASIS	EQUIPMENT LIST
PRODUCE DETAILED PROCESS DESIGN	BASIS	EQUIPMENT PROCESS REQUIREMENTS
PRODUCE DETAILED PROCESS DESIGN	BASIS	EQUIPMENT SPECIFICATION
PRODUCE DETAILED PROCESS DESIGN	BASIS	OWNER REQUIREMENTS
PRODUCE DETAILED PROCESS DESIGN	BASIS	P AND I DIAGRAM
PRODUCE DETAILED PROCESS DESIGN	BASIS	PROCESS CONTROL LOGIC
PRODUCE DETAILED PROCESS DESIGN	BASIS	PROCESS FLOW DIAGRAM (PFD)
PRODUCE DETAILED PROCESS DESIGN	BASIS	SITE INFORMATION
PRODUCE DETAILED PROCESS DESIGN	BASIS	SYSTEM LAYOUT/DESIGN
PRODUCE DETAILED PROCESS DESIGN	CONTROLLER	DESIGN BASIS
PRODUCE DETAILED PROCESS DESIGN	CONTROLLER	SAFETY HAZOPS ANALYSIS
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	CHANGE REQUEST
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	ENVIRONMENTAL IMPACT ASSESSMENT
PRODUCE DETAILED PROCESS	PRODUCT	EQUIPMENT SPECIFICATION

Activity Class	Involvement Class	Class Object
DESIGN		
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	LINE SCHEDULE/LIST
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	OPERATING PROCEDURES
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	P AND I DIAGRAM
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	SAFETY HAZOPS ANALYSIS
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	STREAM DATA
PRODUCE DETAILED PROCESS DESIGN	PRODUCT	TIME/COST ESTIMATES
PRODUCE HEAT AND MASS BALANCE	BASIS	CHARACTERISTIC CLASS
PRODUCE HEAT AND MASS BALANCE	BASIS	OWNER REQUIREMENTS
PRODUCE HEAT AND MASS BALANCE	BASIS	STREAM DATA
PRODUCE HEAT AND MASS BALANCE	CONTROLLER	CODES
PRODUCE HEAT AND MASS BALANCE	CONTROLLER	DESIGN BASIS
PRODUCE HEAT AND MASS BALANCE	CONTROLLER	UNIT OPERATIONS
PRODUCE HEAT AND MASS BALANCE	PRODUCT	HEAT/MASS BALANCE
PRODUCE MAJOR CONTROL SYSTEM DESIGN PHILO	BASIS	EQUIPMENT LIST
PRODUCE MAJOR CONTROL SYSTEM DESIGN PHILO	BASIS	PROCESS CONTROL LOGIC
PRODUCE MAJOR CONTROL SYSTEM DESIGN PHILO	BASIS	PROCESS STREAM DATA

Activity Class	Involvement Class	Class Object
PRODUCE MAJOR CONTROL SYSTEM DESIGN PHILO	PRODUCT	EQUIPMENT DESIGN PHILOSOPHY
PRODUCE MAJOR ELECTRICAL EQUIPMENT DESIGN	BASIS	EQUIPMENT LIST
PRODUCE MAJOR ELECTRICAL EQUIPMENT DESIGN	BASIS	PROCESS CONTROL LOGIC
PRODUCE MAJOR ELECTRICAL EQUIPMENT DESIGN	BASIS	PROCESS FLOW DIAGRAM (PFD)
PRODUCE MAJOR ELECTRICAL EQUIPMENT DESIGN	BASIS	PROCESS STREAM DATA
PRODUCE MAJOR ELECTRICAL EQUIPMENT DESIGN	BASIS	SITE INFORMATION
PRODUCE MAJOR ELECTRICAL EQUIPMENT DESIGN	PRODUCT	EQUIPMENT DESIGN PHILOSOPHY
PRODUCE MAJOR MECHANICAL EQUIPMENT DESIGN	BASIS	EQUIPMENT LIST
PRODUCE MAJOR MECHANICAL EQUIPMENT DESIGN	BASIS	PROCESS CONTROL LOGIC
PRODUCE MAJOR MECHANICAL EQUIPMENT DESIGN	BASIS	PROCESS FLOW DIAGRAM (PFD)
PRODUCE MAJOR MECHANICAL EQUIPMENT DESIGN	BASIS	STREAM DATA
PRODUCE MAJOR MECHANICAL EQUIPMENT DESIGN	PRODUCT	EQUIPMENT DESIGN PHILOSOPHY
PRODUCE PRELIMINARY CONTROL SYSTEM SPECIF	BASIS	EQUIPMENT DESIGN PHILOSOPHY
PRODUCE PRELIMINARY CONTROL SYSTEM SPECIF	BASIS	EQUIPMENT LIST
PRODUCE PRELIMINARY CONTROL SYSTEM SPECIF	BASIS	PROCESS CONTROL LOGIC
PRODUCE PRELIMINARY CONTROL SYSTEM SPECIF	BASIS	PROCESS FLOW DIAGRAM (PFD)
PRODUCE PRELIMINARY CONTROL	BASIS	PROCESS STREAM DATA

Activity Class	Involvement Class	Class Object
SYSTEM SPECIF		
PRODUCE PRELIMINARY CONTROL	PRODUCT	SYSTEM SPECIFICATIONS
SYSTEM SPECIF		
PRODUCE PRELIMINARY	BASIS	EQUIPMENT DESIGN PHILOSOPHY
ELECTRICAL EQUIPMENT		
PRODUCE PRELIMINARY	BASIS	PROCESS CONTROL LOGIC
ELECTRICAL EQUIPMENT		
PRODUCE PRELIMINARY	BASIS	PROCESS FLOW DIAGRAM (PFD)
ELECTRICAL EQUIPMENT		
PRODUCE PRELIMINARY	BASIS	PROCESS STREAM DATA
ELECTRICAL EQUIPMENT		
PRODUCE PRELIMINARY	CONTROLLER	EQUIPMENT LIST
ELECTRICAL EQUIPMENT		
PRODUCE PRELIMINARY	PRODUCT	EQUIPMENT SPECIFICATION
ELECTRICAL EQUIPMENT		
PRODUCE PRELIMINARY	BASIS	EQUIPMENT DESIGN PHILOSOPHY
EQUIPMENT & LINE SPEC		
PRODUCE PRELIMINARY	BASIS	PROCESS CONTROL LOGIC
EQUIPMENT & LINE SPEC		
PRODUCE PRELIMINARY	BASIS	PROCESS FLOW DIAGRAM (PFD)
EQUIPMENT & LINE SPEC		
PRODUCE PRELIMINARY	BASIS	STREAM DATA
EQUIPMENT & LINE SPEC		
PRODUCE PRELIMINARY	CONTROLLER	EQUIPMENT LIST
EQUIPMENT & LINE SPEC		
PRODUCE PRELIMINARY	PRODUCT	EQUIPMENT SPECIFICATION
EQUIPMENT & LINE SPEC		
PRODUCE PRELIMINARY WEIGHT	BASIS	EQUIPMENT SPECIFICATION
AND VOLUME EST		
PRODUCE PRELIMINARY WEIGHT	BASIS	SITE INFORMATION
AND VOLUME EST		
PRODUCE PRELIMINARY WEIGHT	BASIS	SYSTEM LAYOUT/DESIGN
AND VOLUME EST		

Activity Class	Involvement Class	Class Object
PRODUCE PRELIMINARY WEIGHT AND VOLUME EST	CONTROLLER	EQUIPMENT DESIGN PHILOSOPHY
PRODUCE PRELIMINARY WEIGHT AND VOLUME EST	CONTROLLER	SYSTEM SPECIFICATIONS
PRODUCE PRELIMINARY WEIGHT AND VOLUME EST	PRODUCT	PRELIMINARY WEIGHT AND VOLUME ESTIMATES
PRODUCE PRELIMINARY WEIGHT AND VOLUME EST	PRODUCT	WEIGHT AND VOLUME ESTIMATES
PRODUCE PROCESS FLOW DIAGRAMS	BASIS	SITE INFORMATION
PRODUCE PROCESS FLOW DIAGRAMS	CONTROLLER	CODES
PRODUCE PROCESS FLOW DIAGRAMS	CONTROLLER	DESIGN BASIS
PRODUCE PROCESS FLOW DIAGRAMS	CONTROLLER	PROCESS CONTROL LOGIC
PRODUCE PROCESS FLOW DIAGRAMS	CONTROLLER	UNIT OPERATIONS
PRODUCE PROCESS FLOW DIAGRAMS	PRODUCT	PROCESS FLOW DIAGRAM (PFD)
PRODUCE SITE SURVEY AND SOIL INVESTIGATION	BASIS	SITE INFORMATION
PRODUCE TECHNICAL RISKS ASSESSMENT	BASIS	CONCEPTUAL SAFETY ENGINEERING
PRODUCE TECHNICAL RISKS ASSESSMENT	BASIS	DESIGN DESIGN STRA
PRODUCE TECHNICAL RISKS ASSESSMENT	CONTROLLER	CONTAINMENT PHILOSOPHY
PRODUCE TECHNICAL RISKS ASSESSMENT	CONTROLLER	DESIGN SAFETY PHILOSOPHY
PRODUCE TECHNICAL RISKS ASSESSMENT	CONTROLLER	REGULATORY REQUIREMENTS
PRODUCE TECHNICAL RISKS ASSESSMENT	PRODUCT	TECHNICAL RISK ASSESSMENT
PROVIDE RESOURCES	BASIS	RESOURCES

Activity Class

PROVIDE RESOURCES
PROVIDE RESOURCES
PROVIDE RESOURCES
PROVIDE RESOURCES
REVIEW PROCESS DESIGN
REVIEW PROCESS DESIGN
REVIEW PROCESS DESIGN
REVIEW PROCESS DESIGN
REVIEW PROCESS DESIGN
STORE MATERIAL
STORE MATERIAL
STORE MATERIAL
STORE MATERIAL
STORE MATERIAL
TRANSFER AN ITEM
TRANSFER AN ITEM
TRANSFER AN ITEM
TRANSFER AN ITEM
TRANSFER AN ITEM
TRANSFER AN ITEM
TRANSFER AN ITEM
TRANSFORM MATERIAL
TRANSFORM MATERIAL
TRANSFORM MATERIAL
TRANSFORM MATERIAL

Involvement Class

CONTROLLER
CONTROLLER
PRODUCT
PRODUCT
BASIS
BASIS
CONTROLLER
CONTROLLER
PRODUCT
STORABLE
STORABLE
STORABLE
STORABLE
STORAGE
PERFORMER
TRANSFER FROM
TRANSFER TO
TRANSFERABLE
TRANSFERABLE
TRANSFERABLE
TRANSFERABLE
BASIS
PERFORMER
PERFORMER
PRODUCT

Class Object

AUTHORIZATION PLAN
REGULATORY REQUIREMENTS
CAPITAL APPROPRIATION
RESOURCES
PROCESS FLOW DIAGRAM (PFD)
STREAM DATA
CODES
STANDARD
ENGINEERING PHILOSOPHY
DOCUMENT TYPE
ENERGY TYPE
STREAM
SUBSTANCE
FACILITY CLASS
FACILITY CLASS
FACILITY CLASS
FACILITY CLASS
DOCUMENT TYPE
ENERGY TYPE
EQUIPMENT TYPE
STREAM
SUBSTANCE
FACILITY CLASS
GRAVITY SEPARATION
SUBSTANCE